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DATE: April 4, 2012

TO: Kelley Chase, EPA Region 3 OSC
Cynthia Caporale, EPA Region 3 OASQA

THROUGH: Ex. 4 - CBI

FROM: **Ex. 4 - CBI**

SUBJECT: VERIFICATION/COMPLETENESS CHECK – DIMOCK, PA LABORATORY DATA
File 1202005 FINAL PART 2 of 3 R33907 03 29 12 1807.pdf

INTRODUCTION

From April 2 through 4, 2012, a review of the case narratives and corresponding certificates of analysis from the EPA R3 (VOCs, SVOCs and Alcohols Report Mar 29) was conducted at the SERAS facility in accordance with the Follow-Up Verification/Completeness Check agreed upon during our teleconference on Wednesday 2/8/12.

The assumptions for this review include the following: 1) Case narratives from the Regional labs and/or subcontract labs have been reviewed in accordance with Regional or Environmental Services Assessment Team (ESAT) protocols and contain all pertinent and complete information to conduct the completeness check. SERAS will base this review on the information provided by the laboratory and not on an actual data package; and 2) SERAS will relay any "red" flags to the EPA R3 personnel to resolve and determine data usability.

OBSERVATIONS

In accordance with Table 1 – Field and QC Sampling Summary (Rev01 - 2/3/12), Table 2 – Sample Analytical Requirements Summary (Rev01 – 2/3/12), Methods for Groundwater and Surface Water Samples and the R3 SOPs for SVOCs (R3QA201-090111), VOCs (R3QA210-030410) and glycols (SW846 8321/ASTM D773-11 Modified), the following observations were noted and need to be clarified/resolved.

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1. For VOCs, the following qualifications should be applied to the following samples as noted based on the blank results (method, field, trip in that order) in accordance with the National Functional Guidelines: Acetone 2.00U for samples HW27z, HW27, HW55, HW11, HW53, HW53-P, HW58, HW57, HW03, HW03z and HW07; Acetone 5.00U, Bromodichloromethane 0.5U, chloroform 0.5U, toluene 0.5U and o-xylene 1.0U for sample FB16; Acetone 2.00U and chloroform 0.5U for sample HW59; acetone 4.5U, chloroform 0.5U, and toluene 0.5U for sample FB17; and Acetone 3.2U for HW03, chloroform 0.5U and toluene 0.5U for sample FB18.
2. For VOCs, the acetone and bromomethane recoveries for the MS/MSD were below the QC criteria for HW55. The case narrative indicates that there is a bromomethane loss in the spiking solution; however, recoveries are calculated on the added amount and not on an adjusted value. Acetone and bromomethane results for sample HW55 should be qualified estimated "UJ".
3. For VOCs, the bromomethane recovery for the MS/MSD and the 1,1-DCE recovery for the MSD were below the QC criteria for HW57. The case narrative indicates that there is a bromomethane loss in the spiking solution; however, recoveries are calculated on the added amount and not on an adjusted value. Bromomethane and 1,1-DCE results for sample HW57 should be qualified estimated "UJ".

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4. For VOC analysis, it is stated in the case narrative that the %RSD was outside QC criteria. The %RSD value is needed to properly qualify data for acetone.
5. For VOC analysis, precision and accuracy data for cyclohexane, Freon 113, methylacetate, methylcyclohexane or MTBE are not calculated for the LCS or the matrix spikes listed in the laboratory report in Batch BB22804. All recoveries are within QC criteria; no further qualifications are necessary.
6. For SVOCs, the information in the case narrative was not specific to the batch analyzed; comments were combined for all three batches prepped and analyzed. This reviewer used the information supplied previously for these batches, specifically Batches BB21501 and BB21601. All comments need to be reviewed by R3 personnel to ensure that the information and qualifications in the following statements are correct.
7. For SVOCs, the following qualifications should be applied to the following samples as noted based on the blank results (method, field, in that order) in accordance with the National Functional Guidelines: Bis(2-ethylhexyl)phthalate 4.76U, diethyl phthalate 4.76U and di-n-butylphthalate 4.76U for sample FB16; bis(2-ethylhexyl)phthalate 5.00U, diethyl phthalate 5.00U and di-n-butylphthalate 5.00U for samples HW27z, HW27, HW55, HW57 and HW03; di-n-butyl phthalate 5.00U for sample HW11-P; di-n-butyl phthalate 4.76U for samples HW11, FB17, HW57-P and HW58; bis-2-ethylhexyl phthalate 4.76U and di-n-butyl phthalate 4.76U for samples HW59, HW53, HW53-P and HW07; and bis-2-ethylhexyl phthalate 5.00U and di-n-butyl phthalate 5.00U for samples HW03z and FB18.
8. For SVOCs in Batch BB21601, 4-chloroaniline recoveries were <10% and 2-methoxyethanol recoveries were 0% for LCS1 and LCS2. Based on additional information supplied in the case narrative for a previous report, 3,3'-dichlorobenzidine and 3-nitroaniline recoveries were 0% in the low and mid-level spikes. 2,4-dinitrophenol and atrazine recoveries were outside QC limits in the low level spike but were acceptable in the mid-level spike. The case narrative also stated that 4,6-dinitro-2-methyl phenol and pentachlorophenol recoveries were low in the low-level spike. Based on the information supplied in the report, pentachlorophenol was recovered in the low level spike at 35%, was within the 17-109% recovery range and should not be qualified for sample; the RL should remain at 5.00U or 4.76U, depending on the sample. This reviewer agrees with the laboratory that results for 3,3'-dichlorobenzidine and 2-methoxyethanol be qualified unusable (R) for sample. This reviewer also agrees with the laboratory that the RL for atrazine be raised to 60 µg/L or 57.1 ug/L depending on the sample. The laboratory did not qualify data for 4-chloroaniline and 3-nitroaniline as unusable "R" and 4,6-dinitro-2-methylphenol as "UJ" for the following samples: HW59, HW11-P, HW11, HW53, HW53-P, FB17, HW57-P, HW58 and HW57. This information needs to be added to the Scribe result qualifier column.
9. For SVOCs in Batch BB21601, the case narrative states that the internal standard recoveries are low. This reviewer needs to know what internal standards were out and what the recoveries were to assign proper qualifiers to this sample. Based on the National Functional Guidelines, if the recovery is <50%, then the detects are flagged estimated "J" and the non-detects are flagged unusable "R".
10. For SVOCs in Batch BB21501, 2-methoxyphenol was recovered in LCS1 at 0% and pentachlorophenol was recovered at 7%. Based on additional information supplied in the case narrative, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol and 2,4-dinitrophenol were also recovered due to zero or low percent recovery in LCS1. The mid-level spike (LCS2) recoveries were within acceptance criteria. This reviewer agrees with elevating the RL to the mid-level concentration for these compounds (57.1 µg/L for samples FB16; and 60 µg/L for samples HW27z, HW27 and HW55).
11. Sample HW55 was used for the MS/MSD for SVOCs in Batch BB21501. Several RPD values exceeded QC criteria; however the sample results for these analytes are non-detect. The matrix spike recovery for 2-methoxyethanol (23%) for HW55 was below the QC criterion (30-150%). The NFG does not qualify data for non-detected spike compounds if the RPD exceeds the upper acceptance limit. The "UJ" flags should not be carried over into the Scribe result qualifier column except for 2-methoxyethanol, which is qualified based on the low matrix spike recovery.
12. For SVOCs in Batch BB21701, the 2-methoxyethanol recovery for LCS1 was 0% and the pentachlorophenol recovery for LCS1 was 9% for LCS1. The mid-level spikes (LCS2) were within the acceptance criteria. Based on additional information supplied in the case narrative, 2,4-dinitrophenol,

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4,6-dinitro-2-methylphenol and 2-methoxyethanol recoveries were either 0% or low in LCS1. The mid-level spikes (LCS2) were acceptable. This reviewer agrees with elevating the RL for these compounds to 60 µg/L or 57.1 µg/L depending on the sample volume used.

13. It is assumed that all required instrument QC (RSD, %D, minimum response factors, etc.) specified by the method was run and was either within the criteria listed in the EPA R3 SOPs or qualified based on any deficiencies.

cc: Ex. 4 - CBI
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